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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/420,918	10/20/1999	DAVID E. ROSENSTEIN	COVDP001	3432

23689   7590   03/29/2005

Jung-hua Kuo
Attorney At Law
PO Box 3275
Los Altos, CA 94024

EXAMINER
JUNTIMA, NITTAYA

ART UNIT	PAPER NUMBER
2663	

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/420,918	ROSENSTEIN ET AL.
	Examiner	Art Unit	
	Nittaya Juntima	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _18 October 2004_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-24_ is/are pending in the application.

    4a) Of the above claim(s) _4 and 20_ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-3,5-19,21-24_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This action is in response to the amendment filed on 10/18/2004.

2.   Claims 4 and 20 have been cancelled as per applicant's amendment paper no. 9.

3.   Claims 1-3, 5-19, and 21-24 are rejected under 35 U.S.C. 103(a).

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

5.   Claims 1-3, 5-19 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable

over an applicant's admitted prior art (Fig. 1).

Per **claim 1**, as shown in Fig. 1, the admitted prior art teaches *a connection* (a DSL loop

118) carrying analog frequencies between *a client premise* (102) and the central office (104), *a*

digital subscriber line access multiplexer (DSLAM 122) coupled to *an ATM switch* (132).

The admitted prior art fails to teach that (i) a derived voice over data termination device

configured to convert between base band signals and derived voice over data signals utilizing

derived voice over data technology is located outside of the client premise, (ii) the connection is

connected between the client premise and the derived voice over data termination device, and

(iii) the DSLAM is coupled to derived voice over data termination device as recited in claim 1.

However, the admitted prior art further teaches the following:

(a) *a derived voice over data termination device* (a VoATM 110, Fig. 1) configured to

convert between base band signals and derived voice over data signals utilizing derive voice over

data technology (specification, pg. 7, ll 19-pg. 8, ll 1-7),

(b) when ADSL technology is utilized, (1) an ADSL CPE with a voice port, a data port,

and one or more derived voice over data ports located at the client premise 102 and connected to

the MDF 120 in the central office 104 via the DSL loop 118 provides a base-band analog voice

port for a telephone 114, and (2) a POTS splitter 129 connected to the MDF 120 sends and

receives base-band analog voice signals to the PSTN via a voice switch (specification, pg. 9, ll

13-21), and

(c) a voice gateway 142 used in converting between voice signal and derived voice over

data signals utilizing derived voice over data technology is provided at the regional switching

center (106, Fig. 1).

Given the teaching of (a), (b), and (c) above, it would have been obvious to one skilled in

the art to modify the teaching of the admitted prior art such that the derived voice over data

termination device (VoATM 110) would be located outside the client premise, i.e. at the central

office 104, and connected to the connection (DSL loop 118) and the DSLAM (122) as recited in

the claim. Such modification involves only routine skill in the art and would have been done by

placing the VoATM 110 at the central office 104, replacing the VoATM 110 at the client

premise 102 of Fig. 1 with the ADSL CPE (specification, pg. 9, ll 13-21), and connecting the

base band analog voice signals, which are transmitted by the ADSL CPE now at the client

premise 102 to the central office 104 over the DSL loop 118 and separated from the data and

derived voice over data signals by the POTS splitter 129, to the derived voice over data

termination device (VoATM 110) in order to forward the base band analog voice signals through

the existing DSLAM 122 to the ATM switch 132 for further terminal in the PSTN 150. The

suggestion/motivation to do would have been to, instead of forwarding the base band analog

voice signals to the PSTN as taught in the admitted prior art (specification, pg. 9, ll 13-21),

convert the base band analog voice signals from the ADSL CPE located at the client premise 102

into derived voice over data signals in order to provide cost savings on call connection to a

customer having the existing ADSL CPE unit and connecting to a base band analog voice port of

the ADSL CPE, e.g. in a case where the ADSL CPE does not have enough derived voice over

data ports to support an additional derived voice over data connection.

Per **claim 2**, the admitted prior art does not teach that the connection premise (DSL loop

118 in Fig. 1) is powered by the derived voice over data termination device. However, it is well

known in the art that a communication device located in the central office is powered by the

central office and presents a constant source of line voltage, typically 48 volts, to a

communication line connected to it. Therefore, it would have been obvious that once the derived

voice over data termination device (VoATM 110) is connected to the connection, i.e. DSL loop

118, as explained in claim 1, the connection must then be powered by the derived voice over data

termination device to maintain its operation.

Per **claim 3**, the admitted prior art teaches that the connection is over a single metal wire

pair (DSL loop 118 in Fig. 1 is a twisted wire pair).

Per **claims 5** and **6**, the admitted prior art does not teach that the derived voice over data

termination device (VoATM 110 located in central office 104 as explained in claim 1) is

connected to the DSLAM (122) through one of the following ports: DSL (ADSL, SDSL, VDSL,

HDSL, and RDSL), DS1, DS3, OC-3, OC-12, Ethernet, E3, E1, and OC 48.

However, in the Fig. 1 of the admitted prior art illustrates that the VoATM CEP 110

supports a DSL port and the DSLAM 122 connected to the ATM switch supports DSL ports,

namely ADSL and SDSL as well. Therefore, it would have been obvious to one skilled in the art

to modify the teaching of the admitted prior art such that when the derived voice over data

termination device (VoATM 110) is placed in the wire center (central office 104) as explained in

claim 1, it would then be connected to the DSLAM (122) using a DSL port, e.g. SDSL, which is

also supported by the DSLAM (122). The suggestion/motivation to do so would have been to

enable the derived voice over data termination device to communicate with the regional network

130/regional switching center 106 through the DSLAM (122).

Per **claims 7-9**, the admitted prior art does not teach that the derived voice over data

termination device is a voice over ATM device, located in a wire center, and configured to

receive and generate from base band voice signals packetized digital voice data. However, the

admitted prior art teaches a VoATM 110 which is well known for receiving and generating from

base band voice signals packetized digital voice data. Therefore, it would have been obvious to

one skilled in the art to implement the derived voice over data termination device as a voice over

ATM device such as a VoATM 110 and locate it in a wire center (central office 104). The

suggestion/motivation to do would have been to provide voice over ATM connection to the base

band voice signals separated by the POTS splitter 129 for cost savings purposes as explained in

claim 1.

Per **claims 10-15**, the admitted prior art teaches a customer premise equipment (an ADSL

CPE, specification, pg. 9, ll 12-21) located at the client premise (102) and coupled to the

connection (DSL Loop 118) which is coupled to a MDF (120) and a POTS splitter (129) for the

separation between digital data signals and base band voice signals, and is configured to receive

base band voice signals and digital data signals (Fig. 1 and specification, pg. 9, ll 12-21). The

admitted prior art does not teach the arrangement of the derived voice over data termination

device (VoATM 110 located in central office 104 as explained in claim 1) as recited in claims

10, 12, 13, 14, and 15. However, as explained in claim 1, it would have been obvious to modify

the teaching of the admitted prior art such that the derived voice over data termination device

(VoATM 110 located in central office 104 as explained in claim 1) would be arranged as recited

in the limitations of claims 10, 12, 13, 14, and 15. The suggestion/motivation to do so would

have been to provide voice over ATM connection to the base band voice signals separated by the

POTS splitter 129 for cost savings purposes as explained in claim 1.

Per **claim 16**, tThe admitted prior art fails to teach that the voice over data termination

device (VoATM 110) is configured to support transmission to a multiplexer and a switch

utilizing DSL, D1, DS3, OC-3, OC-12, Ethernet, E3, E1, and OC48. However, since the

admitted prior art also teaches that the voice over data termination device (VoATM 110 as

shown in Fig. 1) supports a DSL port, and the multiplexer (DSLAM 122) is connected to the

switch (ATM switch 132) and supports DSL, DS1, DS3, OC-3, OC-12, Ethernet, E3, E1, and

OC48 ports (specification, pg. 8, ll 22-23), it would have been obvious to one skilled in the art to

modify the teaching of the admitted prior art such that the derived voice over data termination

device (VoATM 110) when located in a wire center (central office 104) as explained in claim 1

would be configured to support transmission to the multiplexer (DSLAM 122) and the switch (ATM switch 132) utilizing DSL, DS1, DS3, OC-3, OC-12, Ethernet, E3, E1, and OC48. The suggestion/motivation to do so would have been to connect the derived voice over data termination device (VoATM 110 located in central office 104 as explained in claim 1) to the switch (ATM switch 132) using the ports that are available and supported by the multipelxer (DSLAM 122) in order to provide voice over ATM connection through the regional network (130) and the regional switching center (106).

Per **claim 17**, as shown in Fig. 1, the admitted prior art teaches *a single metal wire pair* (a DSL loop 118) connecting between *a client premise* (102) and *a wire center* (central office 104), *a derived voice over data switch* (an ATM switch 132) coupled to *a PSTN (150), a digital subscriber line access multiplexer* (DSLAM 122) coupled to the *derived voice over data switch* (an ATM switch 132).

The admitted prior art fails to teach that a derived voice over data termination device configured to convert between base band signals and derived voice over data signals utilizing derived voice over data technology is located in a wire center and coupled to a client premise over a single metal wire pair, the derived voice over data switch, and the DSLAM as recited in the claim.

However, the admitted prior art further teaches the following:

(a) *a derived voice over data termination device* (a VoATM 110, Fig. 1) at client premise 102 coupled to a DSL 118 and central office 104 is configured to convert between base band signals and derived voice over data signals utilizing derive voice over data technology (specification, pg. 7, ll 19-pg. 8, ll 1-7),

(b) when ADSL technology is utilized, (1) an ADSL CPE with a voice port, a data port,

and one or more derived voice over data ports located at the client premise 102 and connected to

the MDF 120 in the central office 104 via the DSL loop 118 provides a base-band analog voice

port for a telephone 114, and (2) a POTS splitter 129 connected to the MDF 120 sends and

receives base-band analog voice signals to the PSTN via a voice switch (specification, pg. 9, ll

13-21), and

(c) a voice gateway 142 used in converting between voice signal and derived voice over

data signals utilizing derived voice over data technology is provided at the regional switching

center (106, Fig. 1).

Given the teaching of (a), (b), and (c) above, it would have been obvious to one skilled in

the art to modify the teaching of the admitted prior art such that the derived voice over data

termination device (VoATM 110) would be located in the wire center, i.e. the central office 104,

and coupled to the client premise 102 over the single metal wire pair (DSL loop 118), the derived

voice over data switch (ATM switch 132), and the DSLAM (122) as recited in the claim. Such

modification involves only routine skill in the art and would have been done by placing the

VoATM 110 at the central office 104, replacing the VoATM 110 at the client premise 102 of

Fig. 1 with the ADSL CPE (specification, pg. 9, ll 13-21), and connecting the base band analog

voice signals, which are transmitted by the ADSL CPE now at the client premise 102 to the

central office 104 over the DSL loop 118 and separated from the data and derived voice over

data signals by the POTS splitter 129, to the derived voice over data termination device (VoATM

110) in order to forward the base band analog voice signals to the ATM switch 132 via the

existing DSLAM 122 for further termination in the PSTN 150. The suggestion/motivation to do

would have been to, instead of forwarding the base band analog voice signals to the PSTN as

taught in the admitted prior art (specification, pg. 9, ll 13-21), convert the base band analog voice

signals from the ADSL CPE located at the client premise 102 into derived voice over data

signals in order to provide cost savings on call connection to a customer having the existing

ADSL CPE unit and connecting to a base band analog voice port of the ADSL CPE, e.g. in a

case where the ADSL CPE does not have enough derived voice over data ports to support an

additional derived voice over data connection.

Per **claim 18**, the admitted prior art teaches *the derived voice over data switch* (ATM

switch 132) is coupled to the public switched telephone network (PSTN 150) via *a voice*

gateway (voice gateway 142) and *a voice switch* (class 5 voice switch 146).

Per **claim 19**, the admitted prior art teaches *a regional switching center* (130) which

includes *the derived voice over data switch* (ATM switch 132).

Per **claim 21**, as shown in Fig. 1, the admitted prior art teaches *a wire center* (central

office 104), *a base-band analog connection* (DSL loop 118) between *the client telephone*

(telephone 114) and the wire center (104), transmitting *base band analog voice signals* (analog

voice signals from telephone 114) between the client telephone (telephone 114) and *the wire*

center (104), transmitting *derived voice over data signals* (VoATM signals) between the wire

center (104) and *a voice gateway* (142) connected to *a PSTN* (150) via *a DSLAM* (122) and the

voice gateway (142).

The admitted prior art fails to teach that the derived voice over data termination device is

located in a wire center (central office 104) and connected to the client telephone over the base-

band analog connection and coupled to the voice gateway via the DLSAM as recited in the

claim.

However, the admitted prior art further teaches the following:

(a) *a derived voice over data termination device* (a VoATM 110, Fig. 1) at client premise

102 coupled to a DSL 118 and central office 104 is configured to convert between base band

signals and derived voice over data signals utilizing derive voice over data technology

(specification, pg. 7, ll 19-pg. 8, ll 1-7),

(b) when ADSL technology is utilized, (1) an ADSL CPE with a voice port, a data port,

and one or more derived voice over data ports located at the client premise 102 and connected to

the MDF 120 in the central office 104 via the DSL loop 118 provides a base-band analog voice

port for a telephone 114, and (2) a POTS splitter 129 connected to the MDF 120 sends and

receives base-band analog voice signals to the PSTN via a voice switch (specification, pg. 9, ll

13-21), and

(c) a voice gateway (142, Fig. 1) used in converting between voice signal and derived

voice over data signals utilizing derived voice over data technology is provided at the regional

switching center (106, Fig. 1).

Given the teaching of (a), (b), and (c) above, it would have been obvious to one skilled in

the art to modify the teaching of the admitted prior art such that the derived voice over data

termination device (VoATM 110) would be located in the wire center, i.e. the central office 104,

and coupled to the client telephone (114) over the base-band analog connection (DSL loop 118),

the derived voice over data switch (ATM switch 132), and the DSLAM (122) as recited in the

claim. Such modification involves only routine skill in the art and would have been done by

placing the VoATM 110 at the central office 104, replacing the VoATM 110 at the client

premise 102 of Fig. 1 with the ADSL CPE (specification, pg. 9, ll 13-21), and connecting the

base band analog voice signals, which are transmitted by the ADSL CPE now at the client

premise 102 to the central office 104 over the DSL loop 118 and separated from the data and

derived voice over data signals by the POTS splitter 129, to the derived voice over data

termination device (VoATM 110) in order to forward the base band analog voice signals to the

ATM switch 132 via the existing DSLAM 122 for further termination in the PSTN 150. The

suggestion/motivation to do so would have been to provide cost savings call connection to a

customer having the existing ADSL CPE unit and connecting to a base band analog voice port of

the ADSL CPE, e.g. in a case where the ADSL CPE does not have enough derived voice over

data ports to support an additional derived voice over data customer.

Per **claim 22**, the admitted prior art teaches that the base-band analog connection (DSL

loop 118 in Fig. 1) is over a single metal wire pair.

Per **claim 23**, the admitted prior art in Fig. 1 teaches base-band analog connection (DSL

loop 118), the client telephone (114), a splitter (POTS splitter 129), and transmitting digital data

signals (data signals from LAN 112) between a client premise equipment (a PC connected to

LAN 112) and the splitter (129) over the single metal wire pair (DSL loop 118).

However, the admitted prior art fails to teach the base-band analog connection is between

the client telephone (114) and the derived voice over data termination device (VoATM 110 as

explained in claim 21). It would have been obvious to one skilled in the art to modify the

teaching of the admitted prior art such that the base-band analog connection would be connected

between the client telephone (114) and the derived voice over data termination device (VoATM

110 as explained in claim 21). The suggestion/motivation to do so would have been to convert

the base band analog voice signals from the ADSL CPE into derived voice over data signals in

order to provide cost savings call connection to a customer connecting to a base band analog

voice port of the ADSL CPE, e.g. in a case where the ADSL CPE does not have enough derived

voice over data ports to support an additional derived voice over data customer.

Per **claim 24**, the admitted prior art in Fig. 1 teaches transmitting digital data signals

(data signals from ADSL CPE, see specification, pg. 9, ll 13-21) between the splitter (129) and

the DSLAM (122).

Response to Arguments

6.   Applicant's arguments filed 10/18/2004 have been fully considered but they are not

persuasive.

In the remarks regarding claims 1, 17, and 21, the applicant argues that Fig. 1 fails to

provide any motivation to modify the network described in the claims. Further, the applicant

argues that the prior art shown in Fig. 1 having a VoATM 110 at the customer premise provides

more cost savings to a customer than a case where the ADSL CPE is located at the customer

premise, and that conventional networks do not provide support for converting derived voice

over data signals outside of the client premise.

In response, although the admitted prior fails to show the network structure as described

in independent claims 1, 17, and 21, the admitted prior art further teaches the following:

(a) *a derived voice over data termination device* (a VoATM 110, Fig. 1) at client premise

102 coupled to a DSL 118 and central office 104 is configured to convert between base band

signals and derived voice over data signals utilizing derive voice over data technology

(specification, pg. 7, ll 19-pg. 8, ll 1-7),

(b) when ADSL technology is utilized, (1) *an ADSL CPE with a voice port, a data port,*

and one or more derived voice over data ports located at the client premise 102 and connected to

the MDF 120 in the central office 104 via the DSL loop 118 provides a base-band analog voice

port for a telephone 114, and (2) *a POTS splitter 129 connected to the MDF 120 sends and*

receives base-band analog voice signals to the PSTN via a voice switch (specification, pg. 9, ll

13-21), and

(c) *a voice gateway* (142, Fig. 1) located at the regional switching center 106 outside the

client premise 102 utilized in converting between voice signal and derived voice over data

signals utilizing derived voice over data technology is provided at the regional switching center

(106, Fig. 1).

Given the teaching of (a), (b), and (c) above, it would have been obvious to one skilled in

the art to modify the teaching of the admitted prior art to modify Fig. 1 to provide the network

structure as described in claims 1, 17, and 21. The suggestion/motivation to do would have been

to, instead of forwarding the base band analog voice signals to the PSTN as taught in the

admitted prior art (specification, pg. 9, ll 13-21), convert the base band analog voice signals from

the ADSL CPE located at the client premise 102 into derived voice over data signals in order to

provide cost savings on call connection to *a customer having the existing ADSL CPE unit and*

connecting to a base band analog voice port of the ADSL CPE, e.g. in a case where the ADSL

CPE does not have enough derived voice over data ports to support an additional derived voice

over data connection. Therefore, utilizing the existing ADSL CPE at the customer premise and

premise and providing/relocating the VoATM at/to the central office to convert between voice

signal and derived voice over data signals would have enabled (i) the customers having the

existing ADSL CPEs to save on the voice call connection resulted from converting between the

analog voice signals and the derived voice over data signals without having to purchase/install a

VoATM CPE and (ii) the central office to provide a derived voice over data service to other

customers and reduce network management overhead by consolidating both voice and data onto

a single network.

Moreover, conventional networks do indeed provide support for converting derived voice

over data signals outside of the client premise, e.g. a voice gateway 142 of Fig. 1.

Therefore, the rejection of independent claims 1, 17, and 21 and their respective

dependent claims is maintained.

Conclusion

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nittaya Juntima whose telephone number is 571-272-3120. The

examiner can normally be reached on Monday through Friday, 8:00 A.M - 5:00 P.M.

   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

   Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nittaya Juntima
March 21, 2005
        NT

RICKY NGO   3/25/05
PRIMARY EXAMINER